

(12) **United States Patent**  
**Chen**

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(54) **HINGE ASSEMBLY FOR FOLDABLE ELECTRONIC DEVICE**

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See application file for complete search history.

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(57) **ABSTRACT**

A hinge assembly (10) for joining a body and a cover of a mobile phone includes an inner housing (100), a key (110), a pressure spring (120), a can (130), a slider (140), a damper (150), an outer housing (160), a fastener (170), and a torsion-bar spring (190). The can includes an acceptor (132) defining an axial slot (132b) in a peripheral wall thereof, and a protrusion (131) having a stepped hole. The slider has an adjoining block (141) received in the stepped hole. One end of the torsion-bar spring is secured onto the fastener, and the other end of the torsion-bar spring is received in the slot. A user presses the key to slidably remove the slider from the stepped hole of the can, whereupon the torsion-bar spring can rotationally drive the slider and the fastener, with the outer housing turning in unison therewith. Thus the cover is opened.

**20 Claims, 7 Drawing Sheets**

